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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,042	12/18/2001	William A. Ahroon	920070.402	6064

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OFFICE OF THE STAFF JUDGE ADVOCATE
U.S. ARMY MEDICAL RESEARCH AND MATERIEL COMMAND
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EXAMINER

KNEPPER, DAVID D

ART UNIT PAPER NUMBER

2654

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,042

Applicant(s)

AHROON, WILLIAM A.

Examiner

David D. Knepper

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Applicant's correspondence filed on 18 October 2005 has been received and considered. Claims 1-16 are pending.

Abstract

2. The Abstract of the Disclosure is objected to because it fails to focus on the claimed invention. Correction is required. See M.P.E.P. § 608.01(b).

This objection was ignored in the applicant's previous response. The Abstract itself contradicts arguments against prior art (Engebretson) directed towards the use of a speech intelligibility test in a hearing aid environment. The instant application fails to claim or disclose anything in particular by way of components or environment which is narrower in scope and yet the applicant has submitted arguments on page 12 that are directed to narrower limitations taught by Engebretson rather than address the broader limitations as claimed in the instant application. To the contrary, the Abstract and the application on pages 13-15 provide a laundry list of processing systems and/or elements indicating that an exceptionally broad interpretation of the claims is desired by the applicants. Thus, the contradictory arguments and failure to directly address the general objection above, fail to overcome the previous objection and raise further questions making it difficult to predict what a proper Abstract should include.

Drawings

3. The drawings are objected to because there is no figure showing a "calibrated spoken word". If the applicant considers this a significant element, then a figure showing the waveform of a word compared to the waveform of a "calibrated" word would be considered a minimal

disclosure showing what, if any, significant changes are made to known methods for presenting words. Similarly, there is no figure showing how “speech intelligibility” is actually measured. Instead of showing the steps or calculations necessary to perform the desired results of the claims, the applicant has merely placed the terminology inside a box while omitting any details.

Figures 1A – 1D are photographs that are unclear. It is difficult to distinguish elements even though some reference numbers are provided.

Figures 1C and 1D. The fields mentioned in the specification are not labeled in these figures. These figures contain text indicating an ANSI test standard from 1989 that was not provided under 37 CFR 1.56. Are these figures supposed to be labeled as prior art?

Correction is required.

No suggested changes to the drawings or explanations of figures 1A-1D have been forthcoming, and the question posed regarding prior art was not addressed. While formal drawings may not be required until time of issue of a patent, the applicant was informed in box 10 of PTO Form 326 that any drawing objection may NOT be held in abeyance. To further prosecution, Figures 1C-1D are presumed to be admitted prior art and have been so labeled by the Examiner. Arguments and evidence to the contrary will not be entertained since, at this point in prosecution, they would comprise New Matter contrary to the previous evidence discussed by the Examiner (noted above).

Claims

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a known method of testing speech intelligibility using spoken or recorded words, does not reasonably provide enablement for any new or unobvious implementations or calculations for measuring calibration or intelligibility based upon calibration. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The specification, for example, on page 5 indicates that the inventor noticed discrepancies in known methods for testing speech intelligibility “will introduce inaccuracies into the SI testing in that differences in loudnesses can often somewhat offset the adjustment of the playback gain by the tester during testing” (page 5, specification, lines 10-15). The stated solution is to use words that are “‘calibrated’ such that the words have substantially the same sound energy – at least as viewed against some common scale...” (page 5, lines 21-24).

Conflicting evidence that this is new or unobvious exists in the applicant’s description of prior art under his “Description of the Related Art” on page 2, lines 15-18: “The played back words are all intended to be at the same sound intensity, or loudness, which is generally ensured by making sure that the loudness control of the system through which the words are being played is the same for all played back words”. Based on this statement attributed to prior art, it would appear that one of pedestrian skill in the art of speech signal processing would perform some

form of calibration on the words being used to ensure that loudness for each word (however measured) is the same.

The applicant's statements in the rest of the specification (such as that quoted from page 5) indicate that the invention is a subtle improvement requiring more rigorous calculations than previously employed yielding greater precision. However, the specification fails to provide any specific calculations. The references made to RMS (root mean square) and peak value calculations are generic and appear in the prior art with greater precision than provided in the applicant's specification. Minimal disclosure would require the equations used to be disclosed. Broad disclosure could have been provided by the applicant using figures that have examples of word waveforms [or related displays of energy, SPL (sound pressure levels), peak tracking, etc.] that show comparisons before and after the improved calibration techniques were applied to one or more words.

Even in the provided figures, there is no showing of one or more steps that would actually "calibrate" any word or words. To the contrary, the figures only show a step 202, "present at least one calibrated spoken word" indicating that whatever calibration technique might be used has already been performed and the only thing done by the invention is to allow the data to be presented. As noted in 37 CFR 1.83(a)-(c), conventional features may be illustrated in a box and improvements may be shown as disconnected from the old structure (see also MPEP 608.02 (d)). Thus, it would appear that the applicant's figures indicate that the calibration is best considered as part of some undisclosed old structure.

The written description implies that the improvements described by the applicant in the specification are subtle applications of mathematical measurements (namely, RMS and peak

values) intended to somehow “calibrate” individual words. However, details are not provided in the specification that would be necessary to implement and perform this desired result.

The specification indicates on page 2, lines 20-27, that standard SI testing will be performed: “In response to each presented word, the person’s whose hearing is under test indicates which word the person believes corresponds to the word he or she has just heard... At the end of the test, the individual conducting the SI testing records the percentage correct, and such percentage thereafter serves as a measure of speech intelligibility.” This appears to cover the details of claims 5-7 and 12-14 except that this admission of prior art does not specifically indicate using a “graphical user interface” (GUI) nor does it specify a “six word ensemble”. However, these details seem trivial over the common use of computers with GUI based operating systems (OS) such as Apple OS and later developed Microsoft Windows. This is pointed out because, as was previously mentioned, the specification indicates that the improvement is not the actual performance of SI, but the use of calibrated words to overcome deficiencies that can be solved by employing some new form of calibration.

The applicant’s arguments (18 Oct 2005) on pages 10-11 are not convincing. The applicant argues that the Examiner has made arguments pertaining to Novelty, indicating that a skilled artisan would thus, know how to carry out the claimed invention. This appears on its face to be an admission that the claimed invention is obvious or lack novelty. However, this does not address the fact that elements are not taught with any specificity in the instant specification.

6. The amendment filed 18 Oct 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy” does not have support in the specification (claims 1-14). There is no teaching, for example, for measuring the energy of multiple words, comparing the resulting measurement(s) and then making some sort of adjustment (calibration). There is no disclosure present that teaches how to control any word(s). No particular apparatus or method steps are provided for calibrating or controlling word(s) to result in substantially the same sound energy. This would require the input of multiple words, modifying one or more of the words in some specified manner and the modified data must be shown in a manner which would measurably demonstrate “substantially the same sound energy” between words.

Applicant is required to cancel the new matter in the reply to this Office Action.

7. Claims 1-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 10: The new step of “calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy” fails to find sufficient disclosure under 35 USC 112, first paragraph. It is therefore unclear what is being done to achieve this desired result. Should the “controlling” function be a

separate step rather than an inherent property of the “calibrating” step?

Claims 2, 3: There is no functional interconnect between “having...” a particular property and either measuring (i.e. – through conditional testing) or causing the property to exist (i.e. – by performing a series of steps that imbue word(s) with the desired property). How does each property (“root-mean-squared calibration” or peak value calibration”) relate to the calibrating step and the controlling function? Should these really be three separate steps in the method?

Claims 5-7 and 12-14 appear to be towards details for performing the speech SI test instead of the type of calibration.

The specification indicates that the improvement would be the form of calibration applied to words and that the method for measuring speech intelligibility is well known. However, the claims do not clearly indicate this. Claim 15 has one step which presents a “calibrated word” which could be interpreted to mean that the calibration technique is obvious and that the claimed invention should be interpreted as a new use of an old form of word calibration. However, “measuring speech intelligibility” in these claims could be interpreted as an indication that the invention is really a speech intelligibility (SI) test.

It remains unclear in claim 15 whether the applicant intends to claim an improved form of word calibration using known SI or a new form of SI using known calibration. Interpretation of this claim is further exacerbated by the preamble “program product” and final element which indicates that “signal bearing media” is capable of bearing the actual apparatus. In order to further prosecution, the former will be assumed based on statements from the specification based on the other claims.

8. Claims 1-5 of this application conflict with claims 1-4 of Application No. 10/025,045. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8, 9 and 11-16 are rejected under 35 U.S.C. § 103 as being unpatentable over Engebretson (5,548,082).

As per claim 8, “a method” and “a system” is taught by Engebretson (see title):

“presenting at least one calibrated spoken word” [suggested by his speech, and other stored sounds, col. 7, line 1 – see also col. 14, lines 6 and 28 noting also his calibrating step 209, fig. 5 which performs calibration for ear impedance. Columns 15-20 show equations that

employ root-mean-square (RMS) and peak value calculations to properly calibrate all sounds. Column 18, lines 36-60 teach that the input sounds (including speech waveforms) are carefully controlled (calibrated) as he specifically mentions controlling certain parameters (e.g., sound pressure level), col. 18, line 44 for all input sounds indicating that any stored sounds utilized must have such parameters previously measured for accurate control (calibration).]; and

“measuring speech intelligibility utilizing the at least one calibrated spoken word” (his speech intelligibility test operations of host computer 14 which uses a list of ...test words... utilized for ...the performance of the hearing aid for particular words or other sounds can be observed and subsequent fine adjustments facilitated, col. 21, lines 41-60).

It is noted that Engebretson does not explicitly teach “calibrated spoken word”. However, he teaches that a stored list of spoken words will be used for a speech intelligibility test and that the parameters including SPL will be carefully controlled. He also teaches details for calibration techniques which rely on RMS and peak mathematical calculations. It would have been obvious for a person having ordinary skill in the pertinent art, at the time the invention was made, to use RMS and peak calculations to calibrate words because Engebretson teaches that such calibration in combination with an SI test including a list of spoken words will improve hearing aid performance for particular words.

Claim 9 is rejected as claiming well known speech signal processing mathematical calculations (see claim 1 above).

Claim 11: Using “at least one audio speaker” is taught by Engebretson in figures 1 and 4. See speakers 44, 79 and 81.

Claim 12: "Calculating a number of words correctly identified based upon user input" is taught by Engebretson's ...step 309 to calculate the percent of the words which the patient correctly recognized (co. 21, line 61 – col. 22, line 2).

Claims 13, 14: Using a "graphical user interface" and "displaying at least one six word ensemble via the graphical user interface" (GUI) for the user to select is suggested by Engebretson in col. 21, lines 37-40 where he provides graphics for multiple choice word recognition responses by patient. While he does not specify GUI or a particular number of choices, official notice is taken that one pedestrian knowledge of computers would find it obvious to utilize GUI and display lists to provide this type input/output flexibility to someone using a computer.

Claims 15 and 16 are rejected under similar arguments as applied to claim 8 above. The use of various forms of recordable media are taught by Engebretson. See for example his hard disk 28 and flex disk 26 of figure 1.

11. Claims 1-5 and 10 are rejected under 35 U.S.C. § 103 as being unpatentable over Revit (2001/0040969).

As per claim 1 and 10 "a method" and a system ("means") is taught by Revit (see title):

"calibrating at least one recorded spoken word by controlling each of the at least one recorded spoken words to have substantially the same sound energy" (suggested by his calibration 911, figure 9 which makes an adjustment so that the sound level measured at C matches the calibration level, paragraph 0087, lines 4-5);

“presenting the at least one calibrated spoken word” [suggested by his speech sentence materials, paragraph 0057, line 2); and

“measuring a speech reception threshold utilizing the at least one calibrated spoken word” (his tester keeps score...of words repeated correctly by the listener, paragraphs 0075-0076).

It is noted that Revit does not explicitly teach “calibrated recorded spoken word”. However, he teaches that any spoken sounds may be stored and, as noted above, he specifically refers to sentence materials and measuring the number of words repeated correctly. It would have been obvious to apply his calibration to words because he teaches that the material he is recording may include words as portions of sentences. Further evidence of obviousness is in paragraph 0098-0099 in reference to real-world sounds to include conversations which would inherently include words spoken in conversation.

Claims 2 and 3 are rejected as claiming well known speech signal processing mathematical calculations (see claim 1, 10 above).

Claims 4: Using “at least one audio speaker” is taught by Revit’s speakers in figures 2 and 3.

Claims 5: “Calculating a number of words correctly identified based upon user input” is taught by Revit’s words repeated correctly by the listener [0076].

12. Claims 13, 14 are rejected under 35 U.S.C. § 103 as being unpatentable over Engebretson (5,548,082) in view of Shennib (5,785,661) and Delisle (3,809,811) or Parrot Software (Ref AR).

Claims 13, 14 are rejected under similar arguments as applied above by Egebretonson alone. While it is believed that one of ordinary skill in the art would find such use of GUI obvious, Shennib and Delisle are provided as examples of prior art that teach that it is obvious to display lists of words for user selection (Delisle, col. 3, line 56 – col. 4, line 2) and that GUI interfaces that allow selection by a mouse are similarly obvious (Shennib, figures 1 and 24-28) because Shennib teaches that it was well known to use a single display to present multiple items for selection by the user. Therefore it would have been obvious to improve the older system of Delisle that shows a list of 6 words that are separately displayed, each with a selector that may be pressed by the user by using a more modern display that could show the desired list and be selected with a mouse as shown by Shennib. Similarly, it would have been obvious to improve the computer of Egebretonson with a more modern computer such as used by Shennib to include the use of a mouse because Shennib teaches that this is considered standard for modern computers (col. 12, lines 59-61).

Alternatively, the applicant provided the Parrot Software reference which teaches that speech intelligibility tests may be automatically performed by a user over the Internet using standard GUI interfacing such as that commonly used by browsers.

13. Claims 6, 7 are rejected under 35 U.S.C. § 103 as being unpatentable over Revit (2001/0040969) in view of Shennib (5,785,661) and Delisle (3,809,811) or Parrot Software (Ref AR).

It is noted that Revit does not teach the use of a “GUI” (graphics user interface) as per claims 6, 7. Shennib and Delisle are provided as examples of prior art that teach that it is obvious to display lists of words for user selection (Delisle, col. 3, line 56 – col. 4, line 2) and

that GUI interfaces that allow selection by a mouse are similarly obvious (Shennib, figures 1 and 24-28) because Shennib teaches that it was well known to use a single display to present multiple items for selection by the user. Therefore it would have been obvious to improve the older system of Delisle that shows a list of 6 words that are separately displayed, each with a selector that may be pressed by the user by using a more modern display that could show the desired list and be selected with a mouse as shown by Shennib. Similarly, it would have been obvious to improve the audiometer of Revit with a more modern computer such as used by Shennib to include the use of a mouse because Shennib teaches that this is considered standard for modern computers (col. 12, lines 59-61) and Shennib's goal is to automate audiometer functions (see abstract).

Remarks

14. The changes in claim language have been addressed with new rejections above.
15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Some correspondence may be submitted electronically. See the Office's Internet Web site <http://www.uspto.gov> for additional information.

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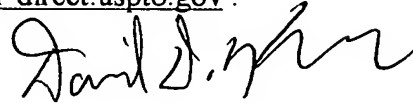
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Knepper whose telephone number is (571) 272-7607. The examiner can normally be reached on Monday-Thursday from 07:30 a.m.-6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

For the Group 2600 receptionist or customer service call (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions

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David D. Knepper
Primary Examiner
Art Unit 2654
December 21, 2005